DVPHD-GB

High-Definition Digital Video Annotator

- *The first multi-window annotator available that supports HD video with HDCP!*
- *Enables real-time, interactive annotation over high-definition video and computer images*
- *Guidebar® technology affords complete presentation control*
- *Displays up to 8 fully-scalable video windows with annotation*
- *QuickSwitch HD® achieves ultra fast switching with transition effects*
- *Modular design accepts the choice of up to 8 simultaneous inputs[1]*
- *Handles HDMI®, DVI, DisplayPort Multimode, and HD-SDI digital video sources[3]*
- *Handles analog RGB, component, S-Video, and composite video sources[3]*
- *Supports DVI, HDMI, and RGB display devices and touch screen monitors[3]*
- *Compatible with a vast range of third-party touch screens[8]*
- *Includes integrated Crestron® graphics engine*
- *Features VXP® high-definition scaling and de-interlacing*
- *Supports resolutions up to WUXGA 1920 x 1200 and HD 1080p60[2]*
- *Automatic input/output configuration via sync-detection and EDID[5]*
- *Advanced HDCP compliance manages DRM for 8 digital sources[7]*
- *Features built-in test patterns for easy setup and fine-adjustment*
- *Allows easy setup via LCD front panel, on-screen display, or Web browser*
- *Affords native Crestron control system integration*
- *Includes high-speed Ethernet and Cresnet® communications*
- *Available QuickMedia® inputs and outputs[4,5,6,7]*

Its modular design affords versatile configurations for handling up to eight different inputs of virtually any type.[1] Industry-leading support for HDCP ensures compatibility with content-protected DVD, Blu-ray Disc®, digital HDTV, and multimedia computer sources. Advanced high-definition image processing achieves astounding realism and detail for every input signal, with the ability to display up to eight separate video images at once, or switch fluently between them using alluring digital transition effects and customizable graphics.

Guidebar® Technology

The DVPHD-GB delivers a powerful, polished presentation and annotation solution, featuring "Guidebar" controls on the presenter's touch screen to enable command over annotation, AV, lighting, and other functions. The Guidebar resides conveniently at the top, bottom, or sides of the presenter's screen without obscuring the video image, allowing immediate access to all the annotation tools, plus buttons for audio volume, source selection, transport control, and room lighting. Just like any Crestron touch screen, the Guidebar is completely customizable for any appearance or functionality, and is only visible to the presenter, so the audience sees just the full-screen video image with annotations.

Whether conducting a boardroom meeting, training seminar, or classroom lecture, annotation helps put the fine point on any presentation. Crestron® annotation provides the ability to illustrate your thoughts on-the-fly, letting you draw and write over high-definition video and computer images, and sketch out ideas on a whiteboard screen, without leaving the podium. In fact, only Crestron lets you control all your varied media sources and present them to any sized audience — with stunning effect and ease — using just a single touch screen.

Introducing the DVPHD-GB High-Definition Digital Video Annotator with Guidebar® Technology — the world's only multi-window annotation processor that displays high-res computer and HD video signals with HDCP, and enables complete control over the entire presentation!

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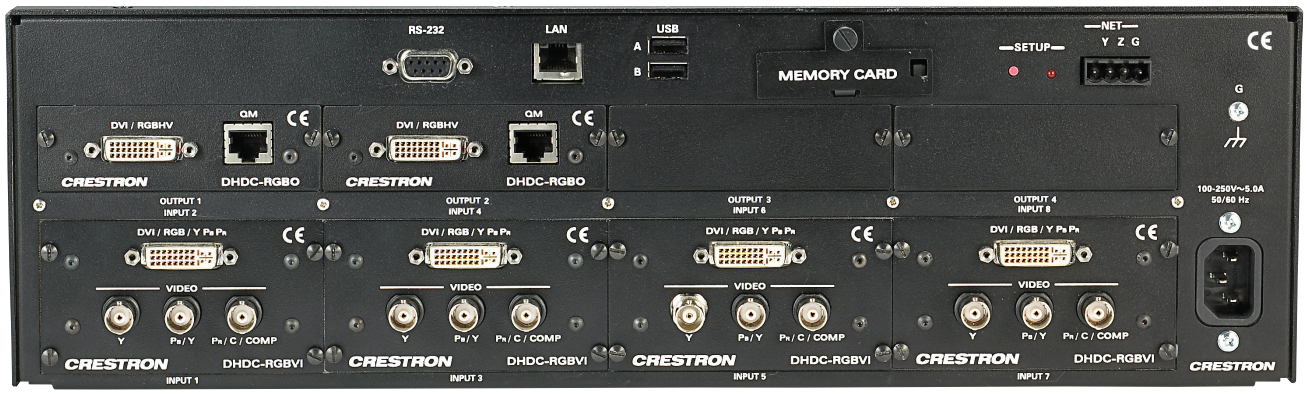

DVPHD-GB – Rear View

Other available input cards

HD Annotation

The DVPHD-GB provides the essential annotation tools to make your point with maximum impact — easily and intuitively. Brush sizes and colors are selectable on the fly for ultimate clarity. Moving images can be frozen on screen to allow pinpoint annotation over a still picture. You can even annotate over two or more different sources at once for easy side-by-side comparison of multiple related images. High-definition annotation processing guarantees both the presenter and the audience sees everything in crisp detail.

Interactive Annotation

Crestron exclusive Remote Annotation capability lets up to 90 individual touch screen users "mass annotate" over the same image, supporting efficient and effective interaction between participants in a classroom, courtroom, council chamber, operating room, or command center.

HDCP Management

The DVPHD-GB is the first annotation processor of its kind that handles HDCP (High-bandwidth Digital Content Protection) to work with a complete range of digital video players, cable and satellite receivers, multimedia computers, displays, and projectors — now and into the future. While other manufacturers ignore HDCP completely, the DVPHD-GB actually performs advanced HDCP signal management, allowing up to eight HDCP encrypted sources to be combined on one high-definition screen along with non-HDCP sources, graphics, and live annotation.

Why does HDCP matter?

As the move to digital takes hold, more and more content providers are using HDCP to protect their DVDs, Blu-ray Discs, broadcast signals, and online content against unauthorized copying. Analog connectivity, which can't support HDCP, is being eliminated from the computers and AV equipment being sold today, and soon content providers will be taking full advantage of the new digital technology to ensure only authorized users may view their content in all its high-definition glory. Systems that don't support HDCP simply won't let you display all this HD content.

QuickSwitch HD®

Crestron exclusive QuickSwitch HD technology eliminates the annoying latency and blanking that plagues other digital annotators and switchers. Switching between inputs of any type is fast and fluid on the DVPHD-GB. Video images can even fade or fly in and out over your own personalized background using digital transition effects and customizable graphics, lending enhanced flow and vibe to the total presentation.

Multi-Format Support

The DVPHD-GB is custom-configurable to accommodate a full range of input signal types.[1] Any resolution up to 1920 x 1200[2] can be supported, with an incredible 125 pre-defined "standard" resolutions, and the ability to define any custom resolution. Available inputs include:

- **HDMI® –** Supports high-definition digital video with HDCP and Deep Color. Handles resolutions up to HD 1080p60 or 1080i30, and WUXGA 1920x1200. Each HDMI input includes a complementary HDMI output to pass the incoming video and audio signals through to another HDMI device. HDMI inputs are also compatible with DVI and DisplayPort Multimode sources. The DVPHD-GB can be configured with up to four HDMI inputs.[3,4]
- **DVI-I –** Supports DVI digital video signals, as well as RGB/VGA or component analog signals. Handles HDCP and Deep Color at resolutions up to 1080p60 and WUXGA. Also handles 1080i interlaced signals via analog. DVI is also compatible with HDMI and DisplayPort Multimode sources. The DVPHD-GB can be configured with up to four DVI-I inputs.[3,4]
- **Multi-format BNC video –** Supports analog component, S-Video, and composite video sources. Handles NTSC, PAL, and HD 1080i interlaced signals, as well as progressive signals up to 720p. The DVPHD-GB can be configured with up to eight multi-format BNC video inputs.
- **SDI –** Supports SDI and HD-SDI digital video signals up to 1080i30 or 1080p30. The DVPHD-GB can be configured with up to four SDI inputs.

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- **QuickMedia® –** Allows for direct connection to a Crestron QuickMedia system.[4,5]

HD Display Outputs

Separate DVI-I outputs are provided for the audience display and presenter's touch screen. Each output can support a DVI, HDMI, or analog RGB signal at any resolution up to 1920 x 1200. To enable Guidebar functionality, the presenter's touch screen simply needs to have a higher resolution than the audience display. For instance, a 1920 x 1200 pixel touch screen can display a 1080p (1920 x 1080) video image, with the Guidebar occupying the remaining 120 rows of pixels above or below the video image. The audience, viewing on a 1080p display, sees just the full-screen 1080p video image. So, everyone enjoys the same full-resolution HD video image while only the presenter sees the Guidebar controls.[2,3,4,6,7]

Vast Touch Screen Support

The DVPHD-GB is compatible with more touch screen displays than any other annotator or video processor on the market. Many dozens of models are supported from numerous manufacturers, with more being added all the time. With a vast array of sizes available in a variety of tabletop, flush mount, and other specialized configurations, there's sure to be a solution that's perfect for your custom application.[8]

Advanced Image Processing

Among annotators, the DVPHD-GB is also a venerable video processor and scaler in its own right, scaling its output perfectly to match the native resolution and aspect ratio of your high-definition display. VXP® video processing with fully adaptive deinterlacing achieves exceptional realism and rich detail from standard-definition, high-definition and computer sources.

Auto-Configuration

The DVPHD-GB is easy to install, configuring itself automatically to match all the different sources and displays as you connect them. Input sync-detection sets the optimum format, resolution, and scan rate for each source[5], while EDID (Extended Display Identification Data) adapts the output to match the connected display device. Manual adjustments and built-in test patterns are also available to allow fine adjustment of every input and output when desired.

System Integration

Both Cresnet® and high-speed Ethernet are standard on the DVPHD-GB, providing full connectivity and seamless communication with one or more Crestron control systems to deliver the ultimate in system integration and advanced presentation control. The DVPHD-GB is also well-suited for integration with DigitalMedia™ systems, allowing for even greater input expansion and distribution to multiple displays.

SPECIFICATIONS

Video

Scaling/Windowing Processor: VXP® video processing, eight channel image processing, resolution management, QuickSwitch HD® technology
Input Signal Types[1]**:** HDMI®, DVI, DisplayPort Multimode[3], SDI, RGB, component (YPbPr), S-Video (Y/C), composite, QuickMedia®
Input Formats: HDMI w/Deep Color, DVI, HDCP content protection support, SDI, HD-SDI, computer up to UXGA/WUXGA, HD up to 1080i and 1080p60, NTSC or PAL
Input Resolutions, Progressive: 640x400 to 1920x1200, 480p, 576p, 720p, 1080p[2]
Input Resolutions, Interlaced: 480i, 487i (SDI), 576i, 1080i
Output Signal Types: DVI, HDMI, RGB, QuickMedia[3,6,7]
Output Formats: DVI, HDMI w/Deep Color, HDCP content protection support, computer up to UXGA/WUXGA, HD progressive up to 1080p60, HD interlaced @ 1080i only
Output Resolutions, Progressive: 640x400 to 1920x1200, 480p, 576p, 720p, 1080p[2]
Output Resolution, Interlaced: 1080i via DVI or HDMI only
Color Depth: 24-bit, 16.7M colors
Analog Gain: 0dB (75 ohms terminated)
Analog Bandwidth: 400MHz

Graphics Engine

24-bit color depth (non-palette), 8-bit alpha channel transparency, 16.7 million colors, Synapse™ image rendering algorithm, multi-mode objects, DNav dynamic menu objects, dynamic graphics, crawling text, PNG translucency, full-motion (60 fps) animation, transition effects, color key video windowing, remote annotation

Memory

DDR RAM: 256 MB
Flash: 64 MB
Memory Card: Accepts up to 4 GB (1 GB CompactFlash® card included)
Maximum Project Size: 200 MB

Touch/Mouse Device Support

In addition to Crestron V-Panel™, compatible touch screen products are offered by (but not limited to) the following manufacturers:

3M® Touch Systems*
AU Optronics® (AUO)*
Bi-Search International*
Canvys®*
Comprel (Italy)*
CyberTouch®
DCD Display Solutions (Italy)*
Dialectica (Russia)*
Digital Systems Engineering
DisplayLite (UK)*
Display Werks*
Elo Touch Solutions™
Equipements Scientifiques (France)*
Hatteland® Display*
Horizon Display*
HP® Compaq®
Hyundai
IQ Automation (Germany)*
Kristel® Displays*
LG®*

NEC®*
NextWindow®
One World Touch*
Planar®
Power Products (Czech Republic)*
Samsung®
SMART
Telac Elektronik (Sweden)*
TouchTable®
TouchSystems*
ViewSonic®*
VTS Medical Systems
Wacom®

*Utilizes 3M MicroTouch® technology

Please contact the respective manufacturer for further details. For latest touch screen and mouse device support information, refer to Crestron True Blue Online Help Answer ID 4666, or contact Crestron True Blue Support.

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP, for control and console
Cresnet®: Cresnet slave port for control and console
USB: Rear panel host ports for mouse/touch screen input, front panel client port for console
RS-232: Bidirectional, up to 115.2k baud, hardware and software handshaking, for console and mouse/touch screen input

Connectors

INPUT – HDMI IN: Up to (4) 19-pin Type A HDMI female[1];
HDMI digital video/audio inputs[4];
Signal Types: HDMI, DVI, or DisplayPort Multimode[3];
Input Resolution, Progressive: 640x400 to 1920x1200, 480p, 576p, 720p, 1080p[2];
Input Resolution, Interlaced: 480i, 576i, 1080i

INPUT – HDMI OUT: Up to (4) 19-pin Type A HDMI female;
HDMI digital video/audio outputs (pass-thru from corresponding HDMI IN)[3];
Signal Types: HDMI, DVI[3]

INPUT – DVI/RGB/YPBPR: Up to (4) DVI-I female (or DB15HD female via adapter included)[1];
DVI, RGB, or component video inputs;
Signal Types: DVI, HDMI, DisplayPort Multimode, RGB (VGA), or component[3];
Digital Formats: DVI, HDMI w/Deep Color, HDCP content protection support;
Analog Formats: RGBHV, RGBS, RGsB, YPbPr;
Input Resolution, Progressive: 640x400 to 1920x1200, 480p, 576p, 720p, 1080p[2];
Input Resolution, Interlaced: 1080i (analog only);
Horizontal Frequency: 15 to 112 kHz;
Vertical Frequency: 25 to 85 Hz;
Analog Input Levels: 0.5 to 1.5 Vp-p with built-in DC restoration;
Analog Input Impedance: 75 Ohms nominal;
Analog Sync Detection: RGBHV, RGBS, RGsB, YPbPr;
Analog Sync Input Level: 3 to 5 Vp-p;
Analog Sync Input Impedance: 1k Ohms

INPUT – VIDEO: Up to (8) sets of (3) BNC female, each set comprising (1) auto-detecting multi-format analog video input[1];
Signal Types: Component, S-Video, or composite;
Formats: YPbPr, Y/C, NTSC or PAL;
Input Resolution: 480i, 576i, 480p, 576p, 720p, 1080i;
Horizontal Frequency: 15 to 67.5 kHz;
Vertical Frequency: 25 to 60 Hz;
Input Levels: 0.5 to 1.5 Vp-p with built-in DC restoration;
Input Impedance: 75 Ohms nominal

INPUT – SDI/HD-SDI: Up to (4) BNC female, SDI video inputs[1];
Signal Types: SDI (SMPTE 125M), HD-SDI (SMPTE 274M, 295M, 296M);
Formats: SDI and HD-SDI interlaced 487i, 576i, 1080i25, 1080i30;
HD-SDI progressive 720p24, 720p25, 720p30, 720p50, 720p60, 1080p24, 1080p25, 1080p30

INPUT – QM: Up to (4) 8-wire RJ45 female, QuickMedia input ports[1,5];
Input Resolution, Progressive: 640x400 to 1920x1200, 480p, 576p, 720p, 1080p[2];
Input Resolution, Interlaced: 480i, 576i, 1080i;
Horizontal Frequency: 15 to 91 kHz;
Vertical Frequency: 25 to 85 Hz;
Delay Skew Compensation: 0 to 22 ns;
Connect to QM output ports of any QuickMedia devices via CRESCAT-QM or CRESCAT-IM cable;
Maximum Cable Length: 450 ft (aggregate distance from QM origination)

OUTPUT – DVI/RGBHV: (2) DVI-I female (or DB15HD female via adapter included);
DVI or RGB video output[7];
Signal Types: DVI, HDMI, or RGB (VGA)[3];
Digital Formats: DVI, HDMI w/Deep Color, HDCP content protection support, EDID;
Analog Formats: RGBHV;
Output Resolution, Progressive: 640x400 to 1920x1200, 480p, 576p, 720p, 1080p[2];
Output Resolution, Interlaced: 1080i (digital only);
Horizontal Frequency: 30 to 91 kHz;
Vertical Frequency: 50 to 85 Hz;
Analog Sync Output Type: RGBHV;
Analog Sync Output Level: TTL, 5Vp-p

OUTPUT – QM: (2) 8-wire RJ45 female, QuickMedia output ports[6,7];
Format: RGBHV;
Output Resolution: Same as RGBHV OUTPUT;
Connects to QM input port of any QuickMedia device via CRESCAT-QM or CRESCAT-IM cable

RS-232: (1) DB9 female, bidirectional RS-232 port;
Computer console and mouse/touch screen input;
Up to 115.2k baud; hardware and software handshaking support

LAN: (1) 8-wire RJ45 female;
10Base-T/100Base-TX Ethernet port for console and control

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USB A – B: (2) USB Type A female host ports for mouse or touch screen input

MEMORY CARD: (1) CompactFlash Type II card slot; For memory expansion up to 4GB, 1GB included

NET: (1) 4-pin 5mm detachable terminal block; Cresnet Slave Port, connects to Cresnet control network

G: (1) 6-32 screw, chassis ground lug

100-250V~4.0A 50/60Hz: (1) IEC 60320 C14 main power inlet; Mates with removable power cord (included)

COMPUTER (front): (1) USB Type B female client port for computer console

LCD Display

Green LCD alphanumeric, adjustable backlight; 4 lines x 40 characters per line

Controls & Indicators

PWR: (1) green LED, indicates connection to AC power source
NET: (1) yellow LED, indicates Cresnet bus activity
HW-R: (1) recessed miniature pushbutton for hardware reset, reboots the processor
SOFTKEYS: (6) pushbuttons for activation of LCD driven functions and passcode entry
MENU: (1) pushbutton, steps menu back one level
▲,▼: (2) pushbuttons, scroll up or down through menu and adjust menu parameters
ENTER: (1) pushbutton, executes highlighted menu or value
DISPLAY 1 – 4: (4) pushbuttons and red LEDs, used to configure Out-Of-The-Box-Functionality (OOTBF) or select output
INPUTS 1 – 8: (8) pushbuttons and red LEDs, select input source
LAN (rear): (2) LEDs, green indicates Ethernet link status, yellow indicates Ethernet activity
SETUP (rear): (1) miniature pushbutton and (1) red LED, used for TSID and Ethernet autodiscovery

Power Requirements

Main Power: 4 Amps @ 100-250 Volts AC, 50/60 Hz
Cresnet Power Usage: Does not draw power from Cresnet

Environmental

Temperature: 32° to 104°F (0° to 40°C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 342 BTU/hr

Enclosure

Chassis: Metal, black finish, side-vented variable-speed fan cooling
Faceplate: Metal, black finish with polycarbonate label overlay
Mounting: Freestanding or 3U 19-inch rack-mountable (adhesive feet and rack ears included)

Dimensions

Height: 5.32 in (136 mm);
5.20 (133 mm) without feet
Width: 17.29 in (439 mm);
19.0 in (483 mm) with ears
Depth: 14.44 in (367 mm)

Weight

15.32 lb (6.95 kg)

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MODELS & ACCESSORIES

Available Models

DVPHD-CUSTOM-GB*: High-Definition Digital Video Annotator w/Custom Input Configuration *see online DVPHD-GB Configuration Tool

Available Accessories

CBL Series: Crestron® Certified Interface Cables

Notes:

1. Actual signal types and quantities are dependent on the selected input/output card configuration. To configure a DVPHD-GB with input and output cards, please use the online DVPHD-GB Configuration Tool. All input and output cards must be factory-installed.
2. Refresh rate is limited to 60Hz or lower for resolutions of 1600 x 1200 or higher. Support for 1920 x 1200 via analog RGB or QM requires a source or display device that supports reduced blanking.
3. HDMI inputs require an appropriate adapter or interface cable to support DVI or DisplayPort Multimode signals. DVI-I inputs require an appropriate adapter or interface cable to support HDMI, DisplayPort Multimode, RGB/VGA, or component signals. DVI-I output requires an appropriate adapter or interface cable to support HDMI or RGB/VGA signals. A VGA to DVI-A adapter is included for use with each DVI-I input and output. CBL-HD-DVI interface cables are available separately.
4. The DVPHD does not process or pass audio signals, except each HDMI INPUT passes video with audio to its corresponding HDMI OUTPUT only. The DVI-I, SDI, and QM inputs and outputs do not support audio.
5. The QM inputs do not support input sync-detection. QM inputs require a QM transmitter or other QM device to accommodate conventional video sources.
6. The QM outputs support RGBHV format only. Each QM output requires a QM receiver or other QM device.
7. The analog RGB and QM outputs are disabled if HDCP is utilized.
8. For latest touch screen device support information, refer to Crestron True Blue Online Help Answer ID 4666, or contact Crestron True Blue Support.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

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Crestron Electronics, Inc. 15 Volvo Drive | Rockleigh, NJ 07647
Tel: 800.237.2041 / 201.767.3400 | Fax: 201.767.1903
www.crestron.com

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